



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,357	08/16/2006	Boaz Cohen	26886U	9206
20/529	7590	07/30/2008		
NATH & ASSOCIATES 112 South West Street Alexandria, VA 22314			EXAMINER REIS, RYAN ALEXANDER	
			ART UNIT	PAPER NUMBER
			3752	
			MAIL DATE	DELIVERY MODE
			07/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,357

Applicant(s)

COHEN, BOAZ

Examiner

RYAN REIS

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-25, 27-29, 31-33, 35-40, 42-45 and 47 is/are rejected.
- 7) ☒ Claim(s) 26, 30, 34, 41 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 01/12/2006 and 08/31/2007
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. In the amendment filed on 06/02/2006, applicant has cancelled original claims 1-21 and has added claims 22-47. Therefore, claims 22-47 are pending in the application and addressed below.

Specification

2. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 22-25, 29, 31, 32, 39, 40, 42, 45 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's disclosure of the Prior Art (Prior Art) in view of Patent Abstracts of Japan 62171515 to Yoshihiro (Yoshihiro).

As to claims 22 and 39, the applicant discloses the Prior Art teaches a rotary sprinkler comprising a rotor (16) with an axle (38) having a tip (39), and a thrust bearing (14) with

Art Unit: 3752

a socket (26) having a bottom (30), the socket being adapted to receive for rotation the axle so that the tip abuts the bottom in a contact zone.

The Prior Art does not disclose the sprinkler further comprises a hard element constituting at least a part of the bottom including the contact zone, the element being made of a harder material than the tip.

However, Yoshihiro discloses an axel (5) having a tip (7) which abuts a hard element (1), wherein the hard element is made of a harder material than the tip for the purpose of lengthening the life of the bearing (see abstract).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have made the Prior Art device with a hard element as taught by Yoshihiro in order to lengthen the life of the bearing.

As to claim 23, the applicant discloses the Prior Art teaches the tip is made of plastic (see page 1, lines 11 and 12 of applicant's specification).

As to claim 24, the applicant does not expressly disclose the Prior Art teaches the rotor with the axle and the tip is one integrally molded plastic part.

Art Unit: 3752

However, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have made the rotor, axle and tip one integrally molded plastic part, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

As to claims 25 and 40, Yoshihiro discloses the hard element has polished surface in the contact zone (see abstract: "specifying surface roughness" and "surface roughness is 0.1-6.0 μ m").

As to claims 29 and 45, Yoshihiro discloses the hard element is made of ceramics (see abstract).

As to claims 31 and 47, Yoshihiro discloses the hard element is made of stainless steel (see abstract).

As to claims 32 and 42, Yoshihiro discloses the hard element is formed as a plate (see abstract).

5. Claims 22, 23, 32, 35-39 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Australian Patent Publication 54,127/73 to Harvey (Harvey) in view of applicant's disclosure of the Prior Art.

As to claims 22 and 39, Harvey discloses a rotary sprinkler comprising a rotor (4) with a socket (9) having a bottom (at 10), and a thrust bearing (at 9) with an axle (6) having a tip (7), the socket being adapted to receive for rotation the axle so that the tip abuts the bottom in a contact zone, wherein the sprinkler further comprises a hard element (10) constituting at least a part of the bottom including the contact zone, the element being made of a harder material than the tip. Harvey does not disclose the rotor with the axle and tip, and the thrust bearing with the socket.

However, the applicant discloses the Prior Art teaches a rotary sprinkler comprising a rotor (16) with an axle (38) having a tip (39), and a thrust bearing (14) with a socket (26) having a bottom (30).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have made the device of Harvey with the axle and tip on the rotor and have the socket on the thrust bearing as taught by the Prior Art, since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167.

As to claim 23, Harvey discloses the tip is made of plastic (see page 3, lines 17 and 18).

Art Unit: 3752

As to claims 32 and 42, Harvey discloses the hard element is formed as a plate (see Figure).

As to claim 35, Harvey discloses the socket has an inlet opening of diameter D_0 and a peripheral wall between the inlet opening and the bottom, the socket being adapted to receive slidably the axle through the inlet opening, wherein the tip has diameter D_1 close to D_0 while an adjacent portion of the axle had diameter $D_2 < D_1$, such that, when the tip abuts the bottom, an open annular gap is formed between the axle and the peripheral wall, and when the tip is aligned with the inlet opening, the inlet opening is essentially closed (see page 4, lines 1-20; see also Figure).

As to claim 36, Harvey discloses the rotor is adapted to slide, under water flow action, into a position where the tip abuts the bottom, and is adapted to slide back, in absence of water flow, into a position where the tip is aligned with the inlet opening (see page 4, lines 13-21).

As to claim 37, Harvey as modified above discloses the sprinkler is adapted to operate with the socket disposed above the rotor.

As to claim 38, Harvey discloses the tip is formed as one of the following: a ball, a cylinder, a cone, a disc, or another body of rotation (see Figure).

6. Claims 27, 28, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Australian Patent Publication 54,127/73 to Harvey in view of applicant's disclosure of the Prior Art as applied to claims 22 and 39 above, and further in view of GB Patent Publication 530,912 to Nagy (Nagy).

As to claims 27, 28, 43 and 44, Harvey as modified above does not disclose the hard element being made of industrial sapphire stone or industrial ruby stone.

However, Nagy discloses a hard element (10) made from sapphire or ruby (see page 2, lines 79-84) for the purpose of minimizing friction and reducing wear (see page 1, lines 14-21).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have made the hard element of Harvey from industrial sapphire or industrial ruby as taught by Nagy in order to minimize friction and reduce wear.

7. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's disclosure of the Prior Art in view of Patent Abstracts of Japan 62171515 to Yoshihiro as applied to claim 32 above, and further in view of European Patent Application EP 0743464 to De Filippis et al. (De Filippis et al.).

Art Unit: 3752

As to claim 33, the Prior Art modified by Yoshihiro discloses the claimed invention above but does not disclose the hard element is a ball locked in the bottom of the socket.

However, De Filippis et al. discloses a steel ball (22) locked in the bottom of a socket (20) which abuts against a rotating axle (10) for the purpose of reducing friction (see column 2, lines 12-15).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have made the hard element of Yoshihiro a ball as taught by De Filippis in order to reduce friction.

8. Claims 40, 42, 45 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Australian Patent Publication 54,127/73 to Harvey in view of applicant's disclosure of the Prior Art as applied to claim 39 above, and further in view of Patent Abstracts of Japan 62171515 to Yoshihiro.

As to claim 40, Yoshihiro discloses the hard element has polished surface in the contact zone (see abstract: "specifying surface roughness" and "surface roughness is 0.1-6.0 μ m").

As to claim 42, Yoshihiro discloses the hard element is formed as a plate (see abstract).

As to claim 45, Yoshihiro discloses the hard element is made of ceramics (see abstract).

As to claim 47, Yoshihiro discloses the hard element is made of stainless steel (see abstract).

Allowable Subject Matter

9. Claims 26, 30, 34, 41 and 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of reference does not show the hard element having a concave surface or being made of glass along with the limitations of the claims from which they depend. The prior art of reference also does not show a concave tip.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 4,660,766 to Nelson et al. shows a rotary sprinkler head with an axle and tip which fits into a socket. US Patent 6,018,442 to Verbunt et al. shows a rotating shaft with a tip which abuts against a hard element.

Art Unit: 3752

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN REIS whose telephone number is (571)270-5060.

The examiner can normally be reached on Monday through Friday 8:00am to 6:00pm EST.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571) 272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RR/

Examiner, Art Unit 3752

/Len Tran/

Supervisory Patent Examiner, Art Unit 3752